A PROBLEM IN NEUROLOGY.—PECULIAR IRIS-REACTION WITH POST-NEURITIC OPTIC ATROPHY.[1]

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OMITTING unimportant details, the principal facts necessary to understanding the proposed problem are these: My patient is a girl of twelve years of age who had been afflicted with obscure spinal and cerebral disease prior to being sent to me for diagnosis and treatment of the ocular conditions. I saw the child for the first time about one year and one-half ago, at which time there was complete blindness, stabile mydriasis, and most intense neuro-retinitis, both papillæ being enormously swollen, the retinal vessels congested, tortuous, and often hidden by the inflamed retina and by multiple scattered hæmorrhages. Both eyes were in the same condition.

Six months later, at the second visit, the neuro-retinitis had quieted down, and typical optic atrophy was pronounced, though vestiges of inflammation existed. Not the faintest perception of light was present.

At the third visit, about one year from the date of the first, there was absolute optic atrophy of the typical white variety, stabile mydriasis, so far as relates to the stimulus of artificial light, and complete blindness. The most brilliant and concentrated light thrown suddenly or continuously through the pupil failed utterly to elicit iris-reaction or perception-response. But, by seating the child before an open window, the street in front being illumined by sun light or diffuse daylight, within half a minute or more the pupils were found to be of normal size. The parents had noticed that when the child had played out of doors the pupils were of the size usual in other people. The motion of the contraction was too slow to observe, that is, one could not positively say that the myotic movement was taking place by watching the pupil attentively. In the same way, the widening, when the patient's face was turned away from the window and directed toward a moderately lighted room, was perhaps more rapid, but still too slow to detect its progression.

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[1] From the Transactions of the Eighth International Ophthalmologic Congress.

The problem, a double one, is, of course, this: (*a*) How can the optic nerve be the afferent intermediate of pupillary response when following a peripheral atrophying neuritis that produces total blindness? And (*b*) Why does the pupil react to the stimulus of continuous diffuse daylight, and not to that of the most brilliant artificial light?

A number of alternative queries arise. For example, is it possible: (1) That there is a localized molecular action of daylight upon the muscular iris-fibres distinct from central neural connection and control? (2) That the stimulus, generalized, strong and continuous, of the daylight is powerful enough to carry some nervous impulse through the atrophied nerve fibres, and so far as the pupillary centres, but that this impulse is too weak to reach the visual centres? (3) Had there been originally a synchronous atrophying lesion of the optic centres or of the conducting paths beyond the pupillary centres (which would explain the blindness), but that still left a few fibres intact between the retina and the corpora quadrigemina? (4) Is there some hitherto unproved neural connection between the iris *per se* and the quadrigeminal bodies? (5) Is the neural intermediate by means of the fifth nerve? Or (6), and finally, is the visual centre stimulated *via* fibres direct from the retina, and not by fibres from the pupillary centre; in other words, are there distinct fibres that proceed to the pupillary centre and end there, the neural impulse not proceeding hence to the visual centres, whilst other distinct fibres proceed directly from the retina to the occipital lobe without calling at the pupillary centres? The fibres of the latter class in my case being all atrophic, while some few of the first class escaped unharmed, or so injured as to respond only to the continuous daylight stimulus.

In this connection I may allude to a case I described in the "Philadelphia Hospital Reports," Vol. II., 1893. A microcephalic child, with congenital cataract, according to my own repeated observations, as well as those of others, had definite light-perception when artificial light was concentrated on the pupil, and as certainly was there a slight iris-reaction, and yet the post-mortem examination of the optic chasm by a competent histologist unmistakably proved to his mind a complete atrophy of all the nerve fibres.

Since writing the foregoing I learn that Dr. Myles Standish, of Boston, has had a case, as yet unreported, similar to mine.

The Bromides Combined with Adonis Vernalis in the Treatment of Epilepsy.—Bechterew (*Neurolog. Centrbl.* No. 23, 1894).

"In an epileptic attack there are vaso-motor changes in the brain, characterized by an active hyperæmia within the cranial cavity. It is on this supposition that the activity of the bromides can be explained. Therefore, it appears to me that it is serviceable to combine the bromides with such a substance that would at once increase the blood-pressure and at the same time narrow the lumen of the blood vessels. Such a substance is represented by adonis vernalis." Possessed of this idea, the author has used adonis vernalis for a number of years, and believes that it has virtues sufficient to warrant calling the attention of the profession to the matter. The mixture which he uses is prepared by making an infusion of adonis vernalis from 2.00-3.75 to 180.0, straining, and adding from 7.50-11.25 of bromide. Of this mixture from four to six, and even eight teaspoonfuls are given daily. If a sedative is indicated, from 12 to 18 ctgrm. of codeine are added to this mixture—the 180 grammes. After considerable experience with this plan, the author says he feels called upon to say that not infrequently the attacks are checked, while in other cases the number and severity are very much lessened. The salutary effects of the treatment are so apparent to the author that he says: "In the many years of my practice I have yet to see a case of epilepsy in which the systematic use of the above mixture did not show its favorable influence." If it were not for the cumulative effect of the infusion of digitalis the combination of it with bromide would be quite as serviceable.

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